CLAIMS

1. A method of estimating channel coefficients (h) in a multi carrier system operating in accordance with a block-code based transmit diversity scheme, in which a data content ($\mathbf{C}^{(i)}$) of a code matrix ($\mathbf{C}$) is multiplexed in a frequency domain, comprising:

a) determining a phase ramp (φ_{est}) in the frequency domain or an equivalent (Δt) thereof in the time domain, the phase ramp (φ_{est}) or the equivalent (Δt) thereof being comprised within a receive signal ($\mathbf{Y}_{\Delta t}$) after timing synchronization;

b) processing the receive signal ($\mathbf{Y}_{\Delta t}$) to remove the phase ramp (φ_{est}) or the equivalent (Δt) thereof; and

c) estimating the channel coefficients (h) on the basis of the processed receive signal ($\mathbf{Y}_{\Delta t}$).

2. The method of claim 1, wherein the phase ramp (φ_{est}) or the equivalent (Δt) thereof is determined by way of estimation.

3. The method of claim 2, wherein the estimation is performed by linear regression.

4. The method of one of claims 1 to 3, further comprising the step of performing timing synchronization with the object of minimizing intersymbol interference.

5. The method of one of claims 1 to 4, wherein at least one of steps a) and b) is performed in the frequency domain.

6. The method of one of claims 1 to 4, wherein at least one of steps a) and b) is performed in a time domain.

7. The method of one of claims 1 to 6, wherein after timing synchronization the receive signal ($\mathbf{Y}_{\Delta t}$) is split and fed into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the phase ramp (φ_{est}) or the equivalent (Δt) thereof is removed in the channel estimation branch (56).

8. The method of one of claims 1 to 6, wherein after timing synchronization the receive signal ($\mathbf{Y}_{\Delta t}$) is split and fed into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the phase ramp (φ_{est}) or the equivalent (Δt) thereof is removed prior to splitting of the receive signal ($\mathbf{Y}_{\Delta t}$).

9. The method of one of claims 1 to 7, further comprising introducing the phase ramp (φ_{est}) or the equivalent (Δt) thereof into the estimated channel coefficients ($\hat{h}$).

10. The method of one of claims 1 to 9, further comprising demodulating the receive signal ($\mathbf{Y}_{\Delta t}$) utilizing the estimated channel coefficients ($\hat{h}$).

11. The method of one of claims 1 to 10, wherein the block-code based transmit diversity scheme of space-frequency block coding (SFBC) or of permutation in the frequency domain is employed.

12. A computer program product comprising program code portions for performing the steps of one of claims 1 to 11 when the product is run on a computer.

13. The computer program product of claim 12 stored on a computer readable recording medium.

14. An estimating stage (60) for estimating channel coefficients (h) in a multi carrier system operating in accordance with a block-code based transmit diversity scheme in which a data content ($\mathbf{C}^{(i)}$) of a code matrix ($\mathbf{C}$) is multiplexed in a frequency domain, comprising:

a) a unit (48) for determining a phase ramp (φ_{est}) in the frequency domain or an equivalent (Δt) thereof in the time domain, the phase ramp (φ_{est}) or the equivalent (Δt) thereof being comprised within a receive signal ($\mathbf{Y}_{\Delta t}$) after timing synchronization;

b) a unit (50) for processing the receive signal ($\mathbf{Y}_{\Delta t}$) to remove the phase ramp (φ_{est}) or the equivalent (Δt) thereof; and

c) a unit (44) for estimating the channel coefficients (h) on the basis of the processed receive signal ($\mathbf{Y}_{\Delta t}$).

15. The estimating stage according to claim 14, further comprising a node (54) for splitting a signal path (55) after timing synchronization into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the unit (50) for processing the receive signal ($\mathbf{Y}_{\Delta t}$) is arranged in the channel estimation branch (56).

16. The estimating stage according to claim 14, further comprising a node (54) for splitting a signal path (55) after timing synchronization into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the unit (50) for processing the receive signal ($\mathbf{Y}_{\Delta t}$) is arranged in the signal path (55) prior to the node (54).

17. The estimating stage according to claim 14 or 15, further comprising a unit (52) for introducing the phase ramp

(φ_{est}) or the equivalent (Δt) thereof into the estimated channel coefficients ($\hat{h}$).

18. A transceiver of a wireless communication system comprising a receiver stage (40) with an estimating stage (60) according to one of claims 14 to 17.